



➤ Enjeux socio-politiques autour de la mise en œuvre des SFN

Joana GUERRIN
Chercheure en Science Politique
UMR GESTE

Joana.guerrin@inrae.fr

➤ Les sciences sociales et les SFN

- Normativité / aide à la mise en œuvre (Eggermont et al. 2015, Kabisch et al. 2016, Keesstra et al. 2018, Maes and Jacobs 2017, Nesshöver et al. 2017, Schaubroeck 2017, Thorslund et al. 2017, Van der Jagt et al. 2017)
- Manque de clarté articulation SFN avec d'autres concepts: ingénierie écologique, services écosystémiques, capital naturel, GI (Bridgewater et al. 2018, Escobedo et al. 2019, Krauze et Wagner 2019, Nesshöver et al. 2017)
- Histoire du concept (Bridgewater, 2018) ; définitions concurrentes des SFN (Eggermont et al. 2015)
- Analyse des discours / métaphores des SFN, Services Ecosystémiques et GI (Escobedo et al. 2019)
- Développer travaux en SHS pour clarifier le concept et éviter les « disservices » potentiels produits par leur mise en œuvre (Hanson et al. 2020, Kabish et al. 2016, Kotsila et Anguelovski 2020 , Nesshöver et al. 2017, Seddon et al. 2020)

➤ Enjeux autour des SFN

Définition du concept

Généalogie scientifique / expertise

Articulation avec concepts associés

Quelle nature ?

Institutionnalisation

Intégration dans les politiques publiques

Appropriation par les acteurs

Mise en œuvre

Quelle gouvernance ?

Participation de la société civile / concertation

Hybridation avec d'autres instruments

Evaluation



➤ Un nouveau projet de recherche

Les SFN : de la théorie à la pratique

Une comparaison France – Etats-Unis

36 mois (2021-2023) / AgreenSkills

Coordination : INRAE (GESTE)

Partenaires scientifiques :

INRAE (GESTE / LESSEM)

ENGEES

CNAM (GeF)

UC Berkeley (Coll. of Env. Design / Institute for International Studies)

Panel d'experts (scientifiques et opérationnels) – France / Etats-Unis

CNRS (GRH), INRAE (LISIS), Univ. De Tours (CITERES)

CEN, MTES (CGDD), OCP, PFE, UICN (Fce)

USACE, DWR (Gov of California), City of SF / Portland, ASFPM, AR, TNC, IUCN

THEORY

PRACTICE

WP1

Defining NbS Concept

France - US

Compile and analyze information on:

- Terms and definitions by different national, regional and local agencies/institutions, and nuance in relation to related concepts (e.g. green infrastructure)
- Integration of the concept into sectorial policies and institutions strategies
- Compare frameworks France-US

Methods (same in France and the US)

- Quantitative
- Bibliometric analysis of scientific grey literature on NbS
- Qualitative
- Semi-structured interviews (NbS experts, scientists, administration)
 - Grey and scientific literature analysis

Outcomes WP1 (Milestone 1)

- 1 Peer-reviewed article
- 1 Research report
- 1 PhD dissertation

Outcomes WP4 (Milestones 4)

- Written documents
- 1 Book or peer-reviewed special issue
 - 2 Annual research reports
 - 1 Final synthesis report

WP2

How are NbS Projects Implemented

France - US

Compile and map NbS projects in France/ US

- In-dept analysis of 9 selected case studies:
- Field trips to visit the NbS projects
 - Technical aspects of design and implem.
 - Implementation divers and challenges
 - Funding sources
 - Governance and decision-making processes (top/downm bottom-up, actors involved)
 - Social representation of NbS projects
 - Compare NbS projects implementation approaches in France-US

Methods (same in France and the US)

- Quantitative
- Questionnaires (citizens concerned by the implemented NbS project)
- Qualitative
- Semi-structured interviews (local project stakeholders and planners, local authorities)
 - Grey and scientific literature analysis
 - Focus groups

Outcomes WP2 (Milestone 2)

- 1 Peer-reviewed article
- 1 Research report

- 1 Policy brief
- 1 Policy report
- 1 Leaflet
- 1 Poster
- 3 Newsletters

WP3

How are NbS Projects Evaluated

France - US

In-dept analysis of 9 selected case studies:

- Approaches used to monitor the project
- Variables and metrics used to evaluate social and environmental effects of NbS projects
- Compare NbS projects evaluation approaches in France-US

Methods (same in France and the US)

- Quantitative
- Questionnaires (project planners and administrations)
- Qualitative
- Semi-structured interviews (planners, local authorities, scientists, NGOs)
 - Grey and scientific literature analysis

Outcomes WP3 (Milestone 3)

- 1 Peer-reviewed article
- 1 Research report

Stakeholders involved in the project

- Policy makers and practitioners
- Education community
- Research community
- Civil society organizations and citizens

WP6

Coordination and management

Outcomes WP6 (Milestone 6)

- Monthly coordination meetings
- 4 Seminars (Consortium + Stakeholders)*
- 2 Workshops (Consortium + Stakeholders)*
- Research visits to French Lab
- Research visits to US Lab

WP4

Dissemination

Outcomes WP4 (Milestone 4)

- Conferences / Webinars
- Seminars* / Workshops*
- Website
 - 1 short video
 - 1 ArcGIS Story Map with NBS projects
 - Written documents

WP5

Experts Network

Outcomes WP5 (Milestone 5)

- Creation of an international Community of Practice (CP) on NBS



Consortium + Stakeholders + Community of Practice

- Creation of an International Associate Laboratory (IAL) between UC Berkeley-INRAE



CITY / URBAN

San Francisco California
San Francisco Creeks

Matt Kondolf
Sarah Minick

Stormwater
Flooding

NbS
Rain Gardens, Green Streets (bioswales), Green Plazas and Parking Lots, Floodwater Detention and Retention Basins

Multi-Benefits
Flood Risk Reduction, Recreation

Portland Oregon
Willamette & Columbia Rivers

Anna Serra-Llobet
Shannah Anderson

Stormwater & Riverine
Flooding

NbS
Rain Gardens, Green Streets (bioswales), Green Plazas and Parking Lots, Floodwater Detention and Retention Basins

Multi-Benefits
Flood Risk Reduction, Recreation

Strasbourg France
Rhine-III Rivers

Sara Fernandez
Rémi Barbier

Stormwater & Riverine
Flooding

NbS
Flood Retention Basins and River Restoration

Multi-Benefits
Flood Risk Reduction, Biodiversity Preservation, Recreation

Angers France
Maine River

Marie Fournier
Mathieu Bonnefond

Stormwater & Riverine
Flooding

NbS
Flood Retention Floodplains (Ile St Aubin an Balzac Park)

Multi-Benefits
Flood Risk Reduction, Biodiversity Preservation, Recreation, Agriculture

CATCHMENT / RURAL

Yolo Bypass California
Sacramento River

Matt Kondolf
Ricardo Pineda

Riverine
Flooding

NbS
Flood Bypass, Wildlife Habitat Restoration

Multi-Benefits
Flood risk reduction, Biodiversity preservation, Recreation, Agriculture

San Francisco Estuary California
SFBA Creeks

Anna Serra-Llobet
Jessica Ludy

Coastal & Tidal
Flooding

NbS
Marshes Restoration, Ecotone Horizontal Levees, Waterfront Parks

Multi-Benefits
Flood risk reduction, Biodiversity preservation, Recreation, Agriculture

Vall d'Allier France
Allier River

Freddy Rey
Pierre Mossant

Riverine
Flooding

NbS
Erosion Control, Sediment Recharhe, River Restoration

Multi-Benefits
Flood Risk Reduction, Biodiversity Preservation, Recreation, Agriculture

Brouage Marshes France
Adour River

Joana Guerrin
Anna Serra-Llobet

Coastal, Tidal & Riverine
Flooding

NbS
Coastal Marshes Restoration

Multi-Benefits
Flood Risk Reduction, Biodiversity Preservation, Recreation, Agriculture

Camargue France
Rhône River

Joana Guerrin
Freddy Rey

Coastal and Tidal
Flooding

NbS
Levee Removal, Coastal Marshes Restoration

Multi-Benefits
Flood Risk Reduction, Biodiversity Preservation, Recreation, Agriculture





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